

PHONOLOGICAL PROBLEMS IN TEACHING ENGLISH TO  
SPEAKERS OF MECCAN ARABIC

by *SPS*

ISAAK ABDELAZIZ DIQS

B. A., Riyadh University, 1965

---

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Speech

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1969

Approved by:

*St. F. W. C.*  
\_\_\_\_\_  
Major Professor

## ACKNOWLEDGMENTS

It is a pleasure to acknowledge my indebtedness to Professor Leo F. Engler who directed this thesis, Professor Norma D. Bunton, and Professor William Coates for their constructive criticisms and suggestions.

## CONTENTS

Chapter	Page
1. INTRODUCTION . . . . .	1
2. INVENTORY OF ENGLISH AND MECCAN ARABIC SEGMENTAL PHONEMES, THEIR ALLOPHONES AND DISTRIBUTION . . . . .	6
3. PROBLEMS OF SAUDI STUDENTS IN MASTERING THE PRONUNCIATION OF ENGLISH CONSONANTS . . . . .	27
4. PROBLEMS OF SAUDI STUDENTS IN MASTERING THE PRONUNCIATION OF ENGLISH VOWELS . . . . .	45
5. VERIFICATION . . . . .	59
REFERENCES . . . . .	66

## CHAPTER 1

### INTRODUCTION

1.1. In Saudi Arabia, learning English as a second language is one of the principal goals in the educational programs. English is being taught now in all schools, from the intermediate up through the college level. There are also other English language programs for teaching English to adults, mainly civil servants and army officers. Unfortunately, most of the teaching materials used in Saudi schools are not designed specifically for Saudis, but for speakers of other Arabic dialects such as Egyptian or Jordanian Arabic. Certainly, Saudi dialects have great similarities to these other dialects, but there are many peculiarities that need to be considered in preparation of teaching materials.

1.2. The main purpose of this study is to identify pronunciation problems encountered by speakers of the dialect of Mecca in learning English, and to ascertain the nature of these problems. This dialect exhibits more points of phonological contrast with English than any Saudi dialect, and includes besides numerous contrastive features common to several of them. Thus, problems of the Meccan speaker are representative of those encountered by most of his fellow Saudi students. A secondary objective of the study is to use the findings in designing appropriate learning materials and suggesting techniques to reduce the predicted problems.

1.3. The scope of this study was limited to an examination of contrasts between the segmental phonology of General American English and Meccan Arabic. Consonant clusters will not be included in the study, because they offer a type of difficulty to which this study was not aimed. Within this limited scope complete solutions were not sought. Phonological manifestations in any language are affected by many features of the linguistic environment--morphological, syntactic, and semantic. If a truly comprehensive solution is to be achieved, further studies similar to this must be made of other contrastive features.

1.4. Identifying problems and ascertaining the nature of their difficulty was attempted through contrastive analysis of the segmental phonological components of the two languages. English, the target language, was taken as the base for comparison. The inventory of English phonemes from Trager and Smith's analysis (1951) was relied upon in presenting English phonemes. The presentation of Meccan Arabic phonemes was based on an analysis of the speech of four Meccan students at Kansas State University campus who had spent most of their lives in Mecca and who spoke the dialect of the educated class. Since, for the purpose of teaching a language, it is advantageous to make contrastive analysis at the allophonic level, contrast was made between the counterpart allophones in the two languages. This method helped to predict erroneous phonological replacements that would be made by Saudi Arabians in

pronouncing English, and made it possible to ascertain the nature of the interference involved, thereby suggesting pronunciation drills to reduce them effectively and efficiently.

1.5. Very little work has been done on the dialects of the Arabian Peninsula. In fact, 'no thoroughgoing descriptive analysis has yet appeared for any dialect of Peninsular Arabic.' (Goodison, 1962:33). As far as descriptive analysis is concerned, 'the Saudi dialects as a whole are the least known of Arabic dialects. The little that has yet appeared in print is in the form of texts, mostly poetic, which are accompanied by notes on grammar and vocabulary.' (Aboud, 1964:2). Unfortunately, not even one of these covers Meccan Arabic. Jayakar (1889) deals with 'Omāni Arabic, Reinhardt (1894) gives a description of Arabic in Zanzibar and the Jabal Akhdar region of Oman; Rossi (1957) may be more modern, but deals with the Arabic of San'ā in Yemen.

Early in the 1950's a group of linguists financed by the Arabian American Oil Company prepared a series of textbooks both in Arabic and English for special purposes of ARAMCO (Arabian American Oil Company, 1955, 1957a, 1957b, 1958). This team, however, did not leave behind them a descriptive study of any of the Saudi dialects.

The first and only detailed linguistic study of a Peninsular dialect is that of Peter Aboud in his doctoral dissertation The Syntax of Najdi Arabic (1964), in which he discussed the dialect of Hayel, a town in the northern part of Saudi

Arabia. His references to the phonology are very brief.

Descriptive studies of the other dialects of Arabic are more plentiful, particularly those of Egypt, Jordan, Palestine, Lebanon and Iraq, and of Classical Arabic. Representative studies are listed in the bibliography.

Beginning in the 1950's the findings of modern linguistics have been applied to the teaching of English to Arabic speakers, with contrastive studies between English and non-Peninsular Arabic dialects, particularly those of Egypt. For instance, Walter Lehn and Robert Slager contrasted the segmental phonemes of Egyptian Arabic of Cairo and English (1959). Khalafallah (1961) covered the phonological problems faced in English by inhabitants of Upper Egypt. Greis (1963) contrasted Cairene Arabic with English for teaching Arabic to English speakers. Nasr (1955) discussed the problems of Lebanese students in learning the English sound system. Malik (1956/57) made a detailed study of American English and Iraqi Arabic consonant clusters. In his Master's thesis, Latif Ali (1966) discussed phonological problems involved in teaching English to speakers of Baghdad Arabic.

In short, there are descriptive studies of non-Peninsular dialects of Arabic, studies contrasting various non-Peninsular dialects of Arabic with English, and at least one descriptive study of Peninsular dialect, but nothing descriptive or contrastive on Meccan. This study is intended to provide a descriptive analysis of Meccan segmental phonemes adequate for

contrasting Meccan with English, and the contrastive analysis. English will be the target language, with reference made to counterpart entities, and/or lacks thereof, in Meccan Arabic.



## CHAPTER 2

INVENTORY OF ENGLISH AND MECCAN ARABIC SEGMENTAL PHONEMES,  
THEIR ALLOPHONES AND DISTRIBUTION

## 2.1. English consonants.

In the following chart, English consonants are classified according to their point and manner of articulation (Engler, 1962:3).

Chart 1  
English Consonants

		Labial	Labio-dental	Dental	Alveolar	Palatal	Velar	Laryngeal
Stops	voiceless	p			t		k	
	voiced	b			d		g	
Fricatives	voiceless		f	θ	s	ʃ		
	voiced		v	ð	z	ʒ		
Affricates	voiceless					tʃ		
	voiced					dʒ		
Lateral					l			
Nasals		m			n		ŋ	
Semivowels		w			r	y		h

## 2.2. Meccan Arabic consonants.

The following chart shows Meccan Arabic consonants classified according to their point and manner of articulation:

Chart 2  
Meccan Arabic Consonants

		Labial	Labio-dental	Dental	Palatal	Velar	Pharyngeal	Laryngeal
Stops	voiceless			t T		k		ʔ
	voiced	b		d D		g		
Fricatives	voiceless		f	s S	ʃ ʃ	x	ħ	h
	voiced			z Z	ʒ ʒ	g	ʕ	
Lateral				l				
Nasals		m		n				
Flap				r				
Semivowels		w			y			

Emphatic sounds are represented in this chart by capital letters (for emphasis see p. 27). /x/ in this chart stands for a voiceless velar fricative, /g/ is a voiced velar fricative, /ħ/ is a voiceless pharyngeal fricative, and /ʕ/ a voiced pharyngeal fricative (Nasr, 1963:14).

### 2.3. English vowels.

English vowels are usually described according to the position of the highest part of the tongue. This may be relatively high, mid, or low. It may also be relatively front, central, or back. A third variable which is not shown in the chart below is the shaping of the lips. Spreading of the lips is associated with high front vowels, and lip rounding with high back vowels. This lip action is progressively less with mid and low vowels, and neutral for central vowels.

Chart 3  
English Vowels

	Front	Central	Back
High	i	ɨ	u
Mid	e	ə	o
Low	æ	a	ɔ

The vowels in the above chart represent the simple syllabic nuclei. For complex nuclei 'these nine vowel phonemes combine with the semivowels /w, y, h/ with dialect and idiolect variations to form the "gliding" vowel nuclei so characteristic of English, and the traditional diphthongs /ay, oy, aw/' (Engler, 1962:10).

### 2.4. Meccan Arabic vowels.

Meccan vowels may, like English, be classified according to position of highest part of tongue during articulation,

from high to low and from front to back, and with similarly coordinated lip action. In Meccan, however, length (mainly duration) is considered a phonemic feature; but, since all Meccan vowels have the long version and only /i,æ,u/ have contrasting short versions, it seems as easy to list long and short vowels as separate unit phonemes--a total of eight--as to posit five vowels and a phoneme of negative length which may be combined only with /i,æ,u/. In the chart below, the base long vowel is transcribed with the vowel symbol plus a colon, and the short counterpart with the vowel symbol alone.

Chart 4  
Meccan Arabic Vowels

	Front	Central	Back
High	i: i		u: u
Mid	e:		o:
Low	æ: æ		

- 2.6. Parallel descriptions of English and Meccan Arabic consonants, their allophones, distribution, and anticipated problems:

English Phoneme :: Meccan Phoneme	Allophonic Distribution		Anticipated Problems for Meccans Learning English Consonants
	English	Arabic	
/p::----	English Allophone :: Meccan Allophone		
[p']::----	Occurs in syllable initial position, as the first member of initial clusters, and as a free variant with [p] and [p'] in final positions.		1. The student will not be able to discriminate be- tween /p,b/. 2. The student will tend to substi- tute his Arabic /b/ for English /p/ in all positions.
[p]::----	Occurs in complemen- tary distribution with [p'].		
[p']::----	Occurs in final posi- tion in free variation with [p'] and [p].		

2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Consonants
		English	Arabic	
/t/::/t/	[t']:::---	Has the same distribution as [p'] (see above).		1. A Meccan will substitute his dental [t'] for all allophones of English /t/.
	[t']:::---	Occurs in complementary distribution with [t'].		2. He will fail to produce the aspirated [t'] in the initial position.
	[t']:::---	Occurs as a free variant with [t'] and [t] in final position.		
	[t']:::---	Occurs in syllable final position followed by a vowel.		
	[t']:::---	Occurs before /θ/ and /ð/.		
	[t']:::---		Occurs in all positions.	

## 2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
		English	Arabic	
/k/::/k/	[k']::---	Has the same distri- bution as aspirated [p'].		It will be diffi- cult for the Meccan to produce the aspirated [k'] in the initial position.
	[k]::[k]	Occurs in complemen- tary distribution with [k'].	Occurs in all positions.	
	[k']::---	Occurs as a free variant with [k'] and [k] in final positions.		
/b/::/b/	[b]::[b]	Occurs in all positions.	Occurs in all positions except before voiceless stops.	No problem is pre- dicted except as noted under /p/ above.
	----:[p]		Occurs before voiceless stops.	

## 2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
		English	Arabic	
/d::/d/	[d]:---	Occurs in all posi- tions except before /θ/ and /ð/.		
	[d̰]:[d̰]	Occurs before /θ/ and /ð/.	Occurs in all positions.	The student will produce dental /d/ for English alveolar /d/.
/g::/g/	[g]:[g]	Occurs in all positions.	Occurs in all positions.	No problem is pre- dicted.
/c::---	[tʃ]:---	Occurs in all positions.		The student will produce /ʃ/ for /č/.
/j::---	[dʒ]:---	Occurs in all positions.		The student will produce /ʒ/ for /ǰ/.
/f::/f/	[f]:[f]	Occurs in all positions.	Occurs in all positions.	No problem is pre- dicted except as no- ted under /v/ below.



2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
		English	Arabic	
/v/:---	[v]:---	Occurs in all positions.		It will be diffi- cult for a Saudi to discriminate and produce /v/ as a separate phoneme from /f/, and maybe from /w/.
/θ/:---	[θ]:---	Occurs in all positions.		It will be diffi- cult for a Meccan to hear and produce /θ/ as distinct from /s/ and /t/.
/ð/:---	[ð]:---	Occurs in all positions.		It will be diffi- cult for a Meccan to hear and produce

## 2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Consonants
		English	Arabic	
/s/::/s/	[s]::[s]	Occurs in all positions.	Occurs in all positions.	No problem is predicted.
/z/::/z/	[z]::[z]	Occurs in all positions.	Occurs in all positions.	No problem is predicted.
/š/::/š/	[š]::[š]	Occurs in all positions.	Occurs in all positions.	No problem is predicted.
/ž/::/ž/	[ž]::[ž]	Occurs medially and finally.	Occurs in all positions.	No problem is predicted.
/m/::/m/	[m]::[m]	Occurs in all positions.	Occurs in all positions.	No problem is predicted.
/n/::/n/	[n]::[n]	Occurs in all positions.	Occurs in all positions except before /k/ & /g/.	No problem is predicted.

/d/ as a phoneme

distinct from /z/ and /d/.

2.6. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
		English	Arabic	
/ŋ/:----	---::[ŋ]	Occurs medially and finally.	Occurs before /k/ and /g/.	It will be diffi- cult for a Saudi to hear /ŋ/ as a sepa- rate phoneme from /n/, and to produce it without adding /g/ or /k/.
/l/:/l/	[l]::[l]	Occurs in prevo- calic position, mainly before front vowels.	Occurs in all positions except those contiguous to emphatic sounds and in the word /allah/ for 'God.'	A Meccan will pro- duce his light /l/ in all environments.

## 2.6. (Continued)

English Phoneme :: Meccan Phoneme	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
	English	Arabic	
	English Allophone :: Meccan Allophone		
	[ɹ]::[ɹ]	Occurs in comple- mentary distribu- tion with [ɹ̥]. Is a frictionless /r/. It occurs initially. Is a fricative [ɹ̥] which occurs after /t/ and /d/.	Occurs in comple- mentary distribu- tion with [ɹ̥].
/r/::/r/	[r]::---		
	[ɹ̥]::---		
	[ʁ]::---		
	[ʁ̥]::[ʁ̥]		
/h/::/h/	[h]::[h]	Occurs initially. Occurs in all positions.	A Meccan will pro- duce his trilled /r/ for all allo- phones of English /r/. No problem is pre- dicted.

2.6. (Concluded)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Consonants
		English	Arabic	
/w/::/w/	[w]::[w]	Occurs initially.	Occurs in all positions.	No problem is pre- dicted.
/y/::/y/	[y]::[y]	Occurs initially.	Occurs in all positions.	No problem is pre- dicted.

2.7. Parallel descriptions of English and Meccan Arabic vowels, their allophones, distribution, and anticipated problems:

English Phoneme :: Meccan Phoneme	Allophonic Distribution		Anticipated Problems for Meccans Learning English Vowels
	English	Arabic	
/i/::i/	[i]::[i]	Occurs in stressed syllables.	It will be difficult for a Meccan to hear /i/ as a separate phoneme from /e/.
-----[ɛ]		In free variation with [i].	
-----[ɪ]		Occurs contiguous to emphatic sounds.	
/e/::---	[ɛ]::---	Occurs in stressed syllables.	It will be difficult for a Meccan to hear and produce this sound as a separate phoneme from /i/.

## 2.7. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Vowels
		English	Arabic	
/æ/::/æ/	[æ]::[æ]	Occurs in stressed syllables.	Occurs in complementary distribution with [e].	It will be difficult for a Meccan to hear and produce /æ/ as a separate phoneme from /e/ and /a/.
	---:[e]		Occurs contiguous to emphatic sounds.	
	---:[a]		In free variation with [e].	
/ɛ/::---	[ɛ]::---	Occurs in unstressed syllables and occasionally in stressed syllables.		It will be difficult for a Meccan to hear and produce this sound as a separate phoneme from /i/.

## 2.7. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Vowels
		English	Arabic	
/ə/:---	[e]:---	Occurs in all positions, in stressed and unstressed syllables.		It will be difficult for a Meccan to produce this sound as a phoneme distinct from /æ/ and /a/.
/a/:---	[a]:---	Occurs in stressed syllables.		It will be difficult for a Meccan to hear and produce /a/ as a separate phoneme from /æ/, /ə/, and /ɔ/.
/u/:-/u/	[u]:-[u]	Occurs in stressed syllables.	Occurs in all positions.	It will be difficult for a Meccan to hear and produce



2.7. (Continued)

English Phoneme	English Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Vowels
:: Meccan Phoneme	:: Meccan Allophone	English	Arabic	
/o/:----				
----: [o]				
Occurs in un- stressed syllables, as in <u>yellow</u> .				
It will be difficult for a Meccan to hear and produce /o/ as a phoneme distinct from /u/ and /ɔ/.				
/o/:----				
----: [ɔ]				
Occurs in stressed syllables, as an al- ternative of /a/, since short /a/ and short /ɔ/ do not usually occur in the same dialect.				
It will be difficult for a Meccan to hear and produce /ɔ/ as a phoneme distinct from /u/ and /o/.				
/u/ as a separate phoneme from /o/.				
Occurs in free variation with [ʊ] in final positions.				

## 2.7. (Continued)

English Phoneme	English Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Vowels
:: Meccan Phoneme	:: Meccan Allophone	English	Arabic	
/iy/::/i:/	[iy]::[i:]	Occurs in stressed syllables.	Occurs in comple- mentary distribu- tion with [ɜː].	Meccans will find it difficult to hear and produce the glide.
/ey/::/e:/	[ei]::[e:]	Occurs in stressed syllables.	Occurs in comple- mentary distribu- tion with [ɛː].	It will be diffi- cult for a Meccan to hear and produce the glide.
-----[ɛː]				
/ay/::/ay/	[ai]::[æi]	Occurs in stressed syllables.	Occurs in posi- tions contiguous to emphatic sounds.	Meccan student will use [æi] for English /ay/.

## 2.7. (Continued)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Vowels
		English	Arabic	

----: [ei]

Occurs in all  
positions contig-  
uous to emphatic  
sounds.

/aw::/aw/ [au]::[æu]

Occurs in stressed  
syllables.

Occurs in comple-  
mentary distribu-  
tion with [eu].  
A Meccan will always  
use [æu] for Eng-  
lish /aw/. This may  
not be considered a  
problem since the  
word house is pro-  
nounced [hæus] in  
some dialects and  
[hæus] in others.

----: [eu]

Occurs in posi-  
tions contiguous  
to emphatic sounds.

2.7. (Continued)

English Phoneme :: Meccan Phoneme	Allophonic Distribution		Anticipated Prob- lems for Meccans Learning English Vowels
	English	Arabic	
/uw/::/u:/	[uw]::[u]: Occurs in stressed syllables.	Occurs medially and finally.	It will be diffi- cult for a Meccan to hear and produce the glide.
/oy/::/oy/			
[oi]::[oi]	Occurs in stressed syllables.	Occurs in a very limited number of words such as /moyæh/ 'water.'	No problem is in- volved.
/ow/::/o:/	[ou]::[o]: Occurs in stressed syllables.	Occurs medially.	A Meccan will find it difficult to hear and produce the glide.

## 2.7. (Concluded)

English Phoneme :: Meccan Phoneme	English Allophone :: Meccan Allophone	Allophonic Distribution		Anticipated Problems for Meccans Learning English Vowels
		English	Arabic	
/Vh/	<p>ʃ ih eh æ h əh</p> <p>ah uh oh əh ʃ</p>	<p>The frequency of the occurrence of these h-glides differs from one dialect to another.</p>		<p>In their dialect Meccans have /Vh/ as a vowel-consonant sequence. Therefore, there is no predicted pronunciation problem. The only problem that could arise would be connected with their interpretation of post vocal /h/ as consonant other than vocalic off-glide.</p>

## CHAPTER 3

PROBLEMS OF SAUDI STUDENTS IN MASTERING THE PRONUNCIATION  
OF ENGLISH CONSONANTS

## 3.1. Introductory remarks.

From the preceding charts, it is apparent that some of the problems a Saudi may encounter in pronouncing English consonants can be predicted. Once these are predicted, it becomes possible to classify them according to the nature of their difficulty. Prediction of problems is based on the assumption that a foreign language learner will transfer the phonemes of his native language, their allophones, and distribution patterns to the language he is trying to learn. Prediction also rests on the assumption that problems can be identified and the nature of their difficulty comprehended through contrastive analysis as shown in Chapter 1. Once these problems are identified and the nature of their difficulty understood, it becomes possible to design pronunciation drills that will help text writers prepare language teaching material and also help language teachers deal with problems not covered in most text books.

## 3.2. Meccan Arabic consonants without counterparts in English.

## 1. Emphatics.

Emphasis is a simultaneous phonetic feature characteristic of some Meccan Arabic consonants and vowels. Pharyn-

gealization is the characteristic feature of these vowels and consonants. When producing emphatic sounds the body of the tongue is 'low and back' (Chomsky and Halle, 1968: 306). There is still dispute concerning the phonemic status of pharyngealization. Since the domain of emphasis overshadows the syllable and in some cases the word, it is difficult to know which carries the original emphasis, the consonant or the vowel. From a theoretical point of view, Chomsky and Halle's framework offers a method of describing the sound units in a matrix of distinctive features. This method can account for emphasis by adding pharyngealization to the features used in the matrix. Unfortunately, this approach does not help in a pedagogical approach because it does not specify the original carrier of emphasis. In this study, consonants are considered the original carrier of emphasis where pharyngealization is produced simultaneously with the other distinctive features of these consonants. Following this line of reasoning, emphasis can be predicted in vowels and thus treated as allophonic. Emphatic consonants are dental stops /T/ and /D/, and alveolar fricatives /S/ and /Z/.

2. Uvular fricatives /x/ and /g/.
3. Pharyngeal fricatives /ħ/ and /ʕ/.
4. Glottal stop /ʔ/.

3.21. Phonemes in the student's native language which lack counterparts in the target language do not often

constitute a learning problem. Therefore, the above-mentioned consonants are of very slight importance in the learning process, because the learner does not need to employ them in the new system. The only danger in this case is that the pharyngealized consonants may replace their unpharyngealized counterparts in English if preceded or followed by /a/. For instance, a Saudi student will probably say /klaS/ instead of /klæ s/ for the word class. Except in this respect, the above-mentioned consonants do not present a pronunciation problem.

### 3.3. English consonants with similar counterparts in Arabic.

What is meant by similar, here, is that the consonants compared are articulated at the same point and in the same manner, and that both are either voiced or voiceless. These consonants are:

1. voiced bilabial stop /b/;
2. velar stops /k/ and /g/;
3. alveolar fricatives /s/ and /z/.
4. alveopalatal fricatives /š/ and /ž/;
5. bilabial nasal /m/ and alveolar nasal /n/; and
6. semivowels /w/ and /y/.

3.31. Learning to discriminate and produce these sounds poses no pronunciation problems. The learner simply transfers his phonemes with their allophones and distribution to the system he is trying to learn. Such counterparts are considered useful because they can be used to create frames in which



difficult sounds may be inserted. Such frames enable the learner to focus his attention on a single problem at a time.

3.4. Similar English and Meccan consonants with different point of articulation or distribution.

English /t/ and /d/ are alveolar stops, while Arabic /t/ and /d/ are dental stops. As a matter of fact, most English sounds that are produced at the alveolar ridge are articulated in the area which lies between the ridge and the inside part of the upper teeth (Lehn and Slager, 1959). From a theoretical point of view one expects to encounter a pronunciation problem here, but experience proves that such a difference in the point of articulation does not matter on the phonemic level, since 'dental versus alveolar articulation is never used in English as the only contrastive difference between phonemes.' (Lado, 1957:16). For native speakers of English such difference is not considered a great deviation from standard English, because 'this difference in point of articulation is heard as a matter of "accent" ... that does not change any word in the language.' (Lado, 1957:16). The extent to which this difference is considered a problem depends on the degree of native-like control which is demanded or expected from the learner. It will be helpful if the teacher points out to his students the point of articulation for these English sounds and asks them to move the tongue back a little in producing them. In addition to this problem, English /t/ presents still others which are discussed separately. English /l/ and its Arabic

counterpart are produced at nearly the same point of articulation and have similar allophones, but they differ in the way these allophones are distributed.

3.41. English voiceless alveolar stop /t/.

The difference in the point of articulation between English /t/ and its Meccan Arabic counterpart has already been shown in paragraph 3.4. English /t/ has the following allophones not found in Arabic:

[tʰ] - a voiceless alveolar aspirated stop. (For distribution of [tʰ] see p. 11.)

[ɾ] - a voiced alveolar flap. This allophone is described by Kenyon: 'In American English /t/ is often voiced between voiced sounds, as in better [bɛɾɹ̩], battle [bæɾl̩]. Yet voiced /t/ is not the same as /d/, and does not belong to the /d/ phoneme, since Americans distinguish between latter [læɾɹ̩]---ladder [lædɹ̩].' (Kenyon, 1935:126-7).

3.411. Since voiceless stops lack aspiration in Arabic, Saudi students will produce English voiceless stops without aspiration in all positions. When /p/, /t/, and /k/ are produced without aspiration, 'speakers of English are likely to hear the sounds as /b/, /d/, and /g/. ' (Wise, 1957:123). Since such foreign accentuation widens the deviation from native-like control, attention must be paid to this fact by both the text writer and the language teacher.

3.412. On the perception level Saudi students will not be able to distinguish the voiced alveolar flap [ṭ] from the voiced alveolar stop /d/ as in latter---ladder. On the production level they will use [ṭ] for [ṭ]. Native speakers may brand this as a nonstandard accentuation. Like aspirated [tʰ], voiced flap [ṭ] should be one of the points taken into consideration by both the text writer and the language teacher.

3.413. Pronunciation drills must move from the known to the less known, then to the unknown. It should also be kept in mind that each drill must deal with only one problem at a time. To help Saudi students learn the aspirated / t /, the following type of drill is helpful:

1. Repetition Drill

[ṭ]	[tʰ]
meet	team
late	tale
mate	tame

2. Repetition Drill

[ṭ]	[ṭ]
bet	better
let	letter
late	later

3. Recognition Drill

The following type of drill may help the teacher see how far his students have progressed in perceiving these allophones

as native speakers do. Students are asked to say 'Same' when the words are exactly the same, and 'Different' when they are not.

#### Examples

better	better (same)
putting	pudding (different)

#### 3.42. English voiced alveolar lateral /l/.

English /l/ differs from its Arabic counterpart in the way their allophones are distributed. English /l/ has the following allophones:

##### 1. Light [l]

'The light [l] is the sound we make when /l/ precedes a front vowel, or when it is followed by /y/, as in leave, lit, land, and value.' (Bronstein, 1960:125).

##### 2. Dark [ɫ]

'When /l/ is in the medial position before an unstressed vowel (as in telephone) in final positions (as in fill), when it precedes a back vowel (as in lose), or when it is syllabic (as in beetle), the sound is made with the back of the tongue higher in the mouth. It possesses the quality or resonance of a back vowel. This /l/ is called "dark" and is transcribed phonetically as [ɫ].' (Bronstein, 1960:125). English /l/ may also assume the function of a vowel and act as an unstressed syllabic sound. 'When /l/ occurs in an unstressed syllable following a sound with which it is essentially homorganic, particularly t, d, n,

it becomes a syllabic [ɫ̥] as in bottle [batɫ̥]. (Wise, 1957:132).

3.421. Meccan Arabic /l/ has the same allophones, light and dark, but their distribution differs completely from that of the English allophones. While dark [ɫ̥] is widely used in General American English, its Meccan Arabic counterpart occurs in a very limited environment. It occurs in positions contiguous to emphatic sounds /T,D,S,Z/, and in [allah] the word for 'God.'

3.422. Saudi students will carry the distribution of Meccan Arabic /l/ allophones to English. To overcome that interference, the teacher should tell his students to use the dark [ɫ̥] in all environments except initial positions before high front vowels. Since syllabic [ɫ̥] is not found in Meccan Arabic, students will add a vowel before / l /. The following type of drill will help in overcoming these problems:

1. Repetition Drill

[l̥]	[ɫ̥]
lean	loan
link	long
lead	deal

2. Repetition Drill

----	[ɫ̥]
mid	middle
sad	saddle
rid	riddle

### 3.5. English consonants without counterparts in Meccan Arabic.

1. voiceless bilabial stop /p/,
2. voiced labiodental fricative /v/,
3. interdental fricatives /θ/ and /ð/,
4. alveopalatal affricates /č/ and /ž/,
5. voiced velar nasal /ŋ /, and
6. voiced alveolar retroflex /r/.

'Experience shows that when the foreign language uses a phoneme which does not exist in the learner's native language that could be transferred to the foreign language and actually function as the phoneme in question, the student will not be able to produce that phoneme readily in learning the foreign language. He will substitute some other phoneme from his native stock.' (Lado, 1957:1).

In spite of offering the same type of difficulty, each of the above consonants has its own distinctive features which raise peculiar problems.

#### 3.51. English voiceless bilabial stop /p/.

/p/ has the following allophones:

1. Voiceless bilabial aspirated stop [p<sup>h</sup>] occurs 'initial, internal before stressed vowel, final in free variation with [p].' (Trager and Smith, 1951:33).
2. Voiceless bilabial unaspirated [p] occurs 'internal before weak vowel, everywhere before [l, \*ɹ] and other consonants.' (Trager and Smith, 1951:33).

3. Voiceless bilabial unreleased stop  $\left[ p^{\text{h}} \right]$  occurs in final position in free variation with  $\left[ p^{\text{h}} \right]$  and  $\left[ p^{\text{h}} \right]$ .

3.511. The Meccan Arabic system does not have /p/ as a separate phoneme. Since voicing is the only significant difference between /p/ and /b/ in English, Saudi students will use their /b/ instead of English /p/ wherever the latter occurs. Aspiration is also a problem for Saudi students. If they are able to produce /p/, they will be inclined to produce it without aspiration. 'Such an aspirated  $\left[ p^{\text{h}} \right]$ , though voiceless, sounds to English ears like /b/.' (Wise, 1957:121).

3.512. It may be helpful, if the student is reminded that 'English voiceless plosives are aspirated most strongly when initial, as in pad  $\left[ pæd \right]$ ; less strongly when final and released, as in nap  $\left[ næp \right]$ ; weakest intervocally, as in ripping  $\left[ rɪpɪŋ \right]$ .' (Wise, 1957:121). The following type of drill is suggested to deal with /p/ and its aspirated allophone  $\left[ p^{\text{h}} \right]$ . Drills should start from the known sound /b/, then move to the unknown /p/, and finally to the aspirated  $\left[ p^{\text{h}} \right]$ .

#### 1. Repetition Drill

/b/	$\left[ p^{\text{h}} \right]$
mob	mop
rib	rip
tab	tap

## 2. Repetition Drill

[b]

[p']

bin

pin

bay

pay

buy

pie

## 3.52. Voiced labiodental fricative /v/.

3.521. This sound is made in English by making the lower lip contact the upper teeth. The velum is closed. The vocalized air passes through the narrowed space between the lip and the teeth. The sound occurs initially, medially, and finally.

3.522. This English phoneme has no counterpart in the phonemic system of Meccan Arabic. Meccans will tend to replace English /v/ with /f/, or possibly /w/. Since voicing is the only difference between /f/ and /v/ in English, Saudi students are more likely to substitute their /f/ for the English /v/, and to make no distinction between them when they are produced in words like fan and van. The problem is to let the student produce /v/ and also hear it as a separate phoneme from /f/. The following type of drill may help solve this problem:

## 1. Repetition Drill

/f/

/v/

fan

van

face

vase

safer

saver



### 3.53. English interdental fricatives /θ/ and /ð/.

Voicing is the only significant difference between English /θ/ and /ð/. Both are produced by 'placing the tip of the tongue in light contact with the back surface of the upper teeth' (Wise, 1957:134), and passing a stream of air through the constricted space between the teeth and the tongue.

3.532. Both /θ/ and /ð/ were found in the phonemic system of earlier Arabic, but four hundred years ago they were lost from the sound system of some Arabic dialects. Irene Garbell gives a convincing explanation for the absence of these sounds from some of Arabic dialects today.

'The main changes of the consonantal system of East Mediterranean dialects at that state (16th - 18th century) were caused by the introduction of Turkish as the official language of the region. That language, on its part, contained numerous Arabic elements borrowed mainly through the medium of Persian.

'In those elements, the old interdental phonemes /θ/, /ð/, and /ð/ were actualized respectively as /s/, /z/, /z/. The same actualizations were introduced in East Mediterranean Arabic in words pertaining to the learned or official style of speech as well as in words used by or in contact with representatives of the government.' (Garbell, 1958:317).

Meccan Arabic was one of those dialects affected by the Turkish influence. This influence was limited to the coasts of the Arabian Peninsula. It did not extend to the center; therefore, these phonemes are not found in Meccan Arabic

although they are preserved in the dialect of Najd--the area around Riyadh.

3.533. Both these phonemes exist in classical Arabic which is learned by all students at school. In learning classical Arabic, /θ/ and /ð/ are always replaced by /s/ and /z/, respectively. The same thing happens in learning English. Attempting to solve the problem, some teachers try to identify English /θ/ and /ð/ with classical Arabic /θ/ and /ð/, not realizing that the student usually substitutes /s/ and /z/ for these sounds when speaking or reading Arabic. To overcome the problem it is suggested that the teacher should exaggerate the production of these sounds showing that the tongue is slightly protruded between the teeth.

#### 1. Repetition Drill

/s/	/θ/
sin	thin
mouse	mouth
sigh	thigh

#### 2. Repetition Drill

/t/	/θ/
tin	thin
tick	thick
tie	thigh

## 3. Repetition Drill

/z/

breeze

haze

/d̥/

breathe

lathe

## 4. Repetition Drill

/d/

breed

read

/d̪/

breathe

wreathe

## 3.54. Alveopalatal affricates /č/ and /j̥/.

'An affricate results from the non-impulsive release of the stop sound into a fricative sound made in the same area of the mouth. The affricate is treated as a separate entity in the language, a phoneme in its own right.' (Bronstein, 1960:92). Phonetically, English /č/ is combined of /t/ and /š/, while English /j̥/ is combined of /d/ and /ž/.

3.54.1. Neither /č/ nor /j̥/ is found in the phonemic system of Meccan Arabic. Since Arabic has /š/ and /ž/, which are considered the closest to English /č/ and /j̥/, Saudi students usually substitute these for the English affricates. Students are often unable to discriminate between minimal pairs like ship / chip and version / virgin. The following type of drill may help in learning these two sounds:

## 1. Repetition Drill

/š/

ship

wash

share

/č/

chip

watch

chair

## 2. Repetition Drill

/ʒ/	/ʒ/
leisure	ledger
pledger	pleasure
version	virgin

## 3.55. Voiced velar nasal /ŋ/.

3.551. In English /ŋ/ occurs medially and finally but not initially. 'It is made by raising the back of the tongue into contact with the open velum, and sending the vocalized breath stream through the pharynx and out through the nasal passages.' (Wise, 1957:131).

3.552. [ŋ] occurs in Arabic as an allophone of the phoneme /n/ when it occurs before /k/ and /g/. In this case we are faced with a complicated problem where an allophone in the native language functions as a separate phoneme in the target language. Such a problem is considered by Lado 'the most difficult one to overcome.' (1957:15).

Experience shows that English /ŋ/ does not form a pronunciation problem for Saudi students in some cases, but is considered a hurdle in others. 'Since [ŋ] is an allophone of /n/ before velar obstruents, English /ŋ/ in this environment is not difficult. Hence English sink, sank, finger, longer are no problem, but contrasts such as sinning / singing are extremely difficult.' (Lehn and Slager, 1959:29). It will also be difficult for Saudi students to produce /ŋ/ in final

positions without adding an inappropriate /k/ or /g/ as in king and riding. Pronunciation drills should include contrasts between /n/ and /ŋ/ to sharpen the recognition of the latter as a distinct phoneme.

1. Repetition Drill

/n/	/ŋ/
sin	sing
ran	rang

3.56. English retroflex /r/.

3.561. American English /r/ is formed in various ways as a result of slight differences in the tongue position. It is usually accompanied by a slight protrusion of the lips. Bronstein describes the way in which English /r/ is produced, 'In the most common positions for /r/ before stressed vowels, as in red and erupt, and initially before unstressed vowels, as in refer and rheumatic, the tip and the blade of the tongue are turned upward, toward the hard palate, the tip pointing to (but not touching) the area immediately behind the alveolar ridge.' (1960:116).

3.562. English /r/ has the following allophones:

1. The frictionless [r] which occurs initially and is considered the most common type of English /r/.
2. The fricative [ɻ] is the type of /r/ which 'may be heard in the speech of many Americans after /t/ and /d/--voiceless after the /t/ of tree [tɻi], voiced after the /d/, as in

dream [ˈdɹiːm]. (Bronstein, 1960:117).

3. 'r--colored vowel' [ɹ̥] is heard in unstressed positions, mainly for syllabic [r] in words such as father [ˈfɑðɹ̥]. In any case this 'r--colored vowel' is considered 'an allophone of the phoneme class /r/, appearing only in unstressed positions.' (Bronstein, 1960:119).
4. The trilled [r̥] 'is characteristic of various dialects and likely to occur automatically in standard English after /θ/, as in three.' (Wise, 1957:132).
5. In postvocalic positions /r/ may be deleted completely and replaced either by a vowel or by a lengthening of the preceding vowel, as in farm [ˈfɑ:m].

3.563. Meccan /r/ is trilled and produced in a different way. It does not have the roundness of the lips that English /r/ has. Lehn and Slager consider English /r/ and Arabic /r/ as entirely different. 'The conventional use of r in the transcription of Arabic r and English r completely obscures the fact that the sounds so symbolized in the two languages are different; in Arabic r represents an apical trill, in English a slightly retroflex continuant, "a vocoid".' (Lehn and Slager, 1959:32).

3.564. From a theoretical point of view, Saudi students may be expected to substitute their trilled /r/ for the English retroflex one in all cases. Since the trilled allophone of English /r/ is considered the nearest to Meccan /r/, it will be fruitful, if the drill starts with words having the environment

required for this allophone, i.e. words starting with /θ/. Then drills should shift to words having fricative [ʧ], and finally to the other allophones. The following type of drill may help in learning the various allophones of English /r/. While using these drills the teacher should ask students to round their lips at the production of this sound and to move the tongue a little back.

1. Repetition Drill

[r]	[ʧ]
three	tree
threw	true
throne	drawn

2. Repetition Drill

[r]	[ʁ]
ring	better
rise	labor
rope	favor

## CHAPTER 4

PROBLEMS OF SAUDI STUDENTS IN MASTERING THE PRONUNCIATION  
OF ENGLISH VOWELS

## 4.1. Introductory remarks.

A characteristic feature in the English speech of Saudi students is their lack of mastery of English vowels. This is accounted for by the fact that, in addition to their great frequency, English vowels pattern in a rather different way from their counterparts in Arabic. Some vowel phones constitute separate vowel phonemes in English, while their counterparts in Meccan are merely allophones of the same vowel.

4.1.1. Each Meccan vowel phoneme has a wider range of allophones than any English vowel phoneme. 'The phonemically simple nuclei in Arabic and English are similar in that both sets are phonetically short and lax. The main and pedagogically important difference is the number of contrasts. Since Arabic has fewer contrasts, the range of allophonic variation of each phoneme is much greater than in English.' (Lehn and Slager, 1959:32). For instance, Meccan Arabic /æ/ has allophones within the area assigned to English /æ/, /ə/, and /ɔ/. This makes it difficult for a Saudi to feel the contrast between minimal pairs like cat / cot, not / nut, and cot / caught. The most important conditioning factor in allophonic variation of Meccan Arabic vowels is pharyngealization. Vowels become pharyngealized when they occur in positions contiguous to



emphatic sounds, where pharyngealization is considered phonemic (See p. 27).

4.12. Length in Meccan is considered phonemic. A Saudi feels a great difference between /ful/ 'a variety of flower' and /fu:l/ 'a kind of beans.' Variation in length occurs in English also, but it is not phonemic. In addition to the length of the English complex syllabic nuclei, or glides, one can detect a difference in length in a single phoneme according to the environments in which it occurs. With English vowels, 'the length differences are in complementary distribution: longest before voiced spirant, rather long before voiced stop, and nasal, somewhat long before voiceless spirant, and short before voiceless stop.' (Trager and Smith, 1951:19). We would expect, then, that the Saudi would hear and produce the English glides as length, and erroneously award phonemic significance to the difference in length in, for example, the relatively long /e/ in bed and the relatively shorter /e/ in bet, and confuse this in turn with the glides again. Thus, he would tend to substitute his tense long monophthongs /i:, e:, u:, o:/ with the English glides /iy, ey, uw, ow/, respectively. This in itself would cause no great problem, but he would also hear and produce bed as /be:d/, interpreting it as bade. On the other hand, he would produce bade also as /be:d/ which the English ear, attaching no significance to the length of the vowel, would hear as bed. Thus we will need to examine each of the nine English simple vowels, and the glides /iy, ey, ay,

oy, aw, uw, ow/ typical of General American, with reference to their Meccan counterparts.

#### 4.2. English simple vowels.

##### 4.21. English, high front, unrounded, lax vowel /i/.

4.211. In English /i/ is produced by raising the tongue high in the mouth, allowing the vocalized air to pass over the arch made by the tongue. The lips tend to be spread. The length of this vowel changes in different environments. Like other vowels it is longest before voiced spirants, and shortest before voiceless stops.

4.212. A phoneme /i/ is found in the vowel system of Meccan Arabic. But while length is insignificant in English because it is predictable, it is phonemic in Meccan Arabic. Meccan Arabic /i/ has two allophones [i] and [iː], (see p. 19), both of which when lengthened become allophones of different phonemes. As shown in the parallel descriptions of English and Meccan vowels, Saudi students find some difficulty in hearing and producing English /i/ as a phoneme separate from /e/ as in bit / bet. This is because Meccan Arabic does not have /e/ as a separate phoneme, but as a free variant of /i/. Thus the student will carry his wide range of accepted variation to English.

4.213. It is the responsibility of both the text writer and the language teacher to take this problem into consideration.

They must seek the most efficient and effective way to let the student distinguish between /i/ and /e/ on both the recognition and the production level. It will help if the teacher tries briefly to show the students the difference in articulation between these two sounds according to the position of the tongue. The following types of drills may help to overcome this problem. Such drills are intended to facilitate the recognition of /i/ and /e/ as two distinct phonemes.

1. Repetition Drill

/i/	/e/
bit	bet
lit	let
sit	set

2. Repetition Drill

1. It's a neck.
2. It's a nick.
3. They're bit.
4. They're bet.

3. Repetition Drill

Say 'Same' if the two utterances are exactly alike;  
say 'Different' if not.

- |        |                 |
|--------|-----------------|
| 1. fin | fin (same)      |
| 2. tin | ten (different) |
| 3. lid | led (different) |

4.22. English vowel /e/.

4.221. This vowel is described as mid front, unrounded lax. It is made with the tongue blade slightly lower in the mouth than for the high front vowel /i/. The lips for the production of this vowel are more open and less spread.

4.222. Meccan Arabic does not have /e/ as a separate phoneme. It is found as a free variant of the Arabic phoneme /i/. Thus Saudi students will find it difficult to hear the difference between minimal pairs like tin / ten. Since it is the glide, not the length, that makes the difference between /e/ and /ey/ in English, Saudis may be unable to distinguish between the two nuclei in bet and bait or bed and bade.

4.223. The drills introduced in 4.213 are expected to help the students hear and produce /e/ as a phoneme distinct from /i/. The following types of drills are suggested to help Saudi students hear and produce /e/ as a phoneme distinct from the glide /ey/.

#### 1. Repetition Drill

/e/	/ey/
bet	bait
get	gate
red	raid

#### 2. Recognition Drill

men	men	(same)
pen	pain	(different)
red	raid	(different)

#### 4.23. English vowel /æ/.

4.231. /æ/ is a low front, unrounded, lax vowel. To produce this sound 'the tongue blade is slightly lower in the mouth and somewhat retracted from the position of /e/. It is commonly considered a lax vowel, although a clearly tense variety of the sound exists in all parts of the country.' (Bronstein, 1960:154). The lips and the mouth are more open than for any other front vowel.

4.232. /æ/ is found in Meccan Arabic as a separate phoneme. It has /ə/ as an allophone in positions contiguous to /T,D,S,Z,l/. Phonetically a Saudi student does not find any difficulty in hearing and producing this sound, but phonemically, he is expected to confuse it with both /ə/ and /a/. Contrasts as in bat / but / bot are difficult for a Saudi student to control.

4.233. In teaching the English phoneme /æ/ to Saudis, it will be helpful if the problem is handled in two stages. First, to enable the student to hear and produce /æ/ as a phoneme distinct from /ə/, then as one distinct from /a/. As a final step, it is useful to present the three phonemes in one drill. The following types of drills will facilitate the student's recognition of /æ/ as a separate phoneme from /ə/ and /a/.

## 1. Repetition Drill

/æ/	/ə/
bat	but
hat	hut
tab	tub

## 2. Repetition Drill

/æ/	/a/
hat	hot
pat	pot
rat	rot

## 3. Recognition Drill

tab	tab	(same)
bat	but	(different)
hat	hot	(different)

## 4.24. English vowel /ɪ/.

4.241. This sound is described as high central, lax vowel. Although its phonemic status is not as generally conceded as that of the other vowels, it still occurs very frequently in all varieties of English in stressed as well as unstressed positions. This sound is made by raising the middle of the tongue high in the oral cavity while the lips remain in their neutral positions.

4.242. This sound is not included in the Meccan Arabic vowel inventory. Phonetically, English /ɪ/ is similar to the

allophone of the Arabic vowel /i/ as it occurs in positions contiguous to /T,D,S,Z,ɬ/. From a phonetic point of view, Saudi students will be able to produce this sound, but the real problem will be their inability to recognize /i/ and /ɪ/ as separate units. Since this sound has a low functional load, it is not necessary to overload the student's memory with many contrasts. It will be enough if this sound is introduced in some of the words in which it occurs, such as:

horse	horses
church	churches
part	parted

#### 4.25. The English vowel /ə/.

4.251. This sound is known as 'schwa' and described as a mid central lax vowel. 'It is probably best described as a sound made with the articulators in neutral positions, with neither spread nor rounded lips, and with the tongue neither forward nor back.' (Bronstein, 1960:179).

/ə/ is usually found in unstressed monosyllabic articles, prepositions, conjunctions, pronouns, and auxiliary verbs, as in a, an, in, for, was, can, them. In their book The Sound Pattern of English, Chomsky and Halle tried to find transformational rules to account for the fact 'that non-tense vowels specified as /- stress/ reduce to [ə] fairly generally.' (1968:111). As a tentative step they formulated the Vowel Reduction Rule as:



4.252. /ə/ is not found as a separate phoneme in Meccan Arabic, but it is used as an allophone of /æ/ when it occurs in positions contiguous to /T,D,Z,l/ as in /Sæf/ [Səf] 'class.' Phonetically, Saudis are able to produce this sound, but phonemically they cannot recognize it as a phoneme separate from either /æ/ or /a/. Equally important is their inability to practice the vowel reduction required for real control of English. Speakers of Meccan, and other dialects of Arabic for that matter, are inclined to keep the quality of vowels unchanged whether stressed or not. Vowel reduction in English is closely related to the stress-timed rhythm of the language and the solution to this problem for Arabs would require a thoroughgoing contrastive study of the rhythm patterns of the two languages--a task beyond the scope of this thesis. We will restrict ourselves here, therefore, to the initial step of establishing /ə/ as a phoneme separate from /æ/ and /a/ in stressed syllables. The following type of drill is suggested to establish the contrast between /ə/ and /æ, a/ in monosyllabic words:

1. Repetition Drill

/æ/	/ə/
hat	hut
bat	but
mast	must



## 2. Repetition Drill

/ə/	/a/
hut	hot
shut	shot
cut	cot

## 4.26. The English vowel /a/.

4.261. /a/ is a low central, unrounded, slightly tense vowel. In producing it the mouth is open wider than for any other vowel. The lips are in their neutral position, neither spread nor rounded, and the tongue is lower than its normal position and retracted a little. This sound is found in such words as lock, pot, shop, and hot.

4.262. Meccan students are able to produce /a/ not as a separate phoneme, but as an allophone of /æ/, in free variation with [ɐ] in positions contiguous to /T,D,S,Z,ɹ/. The problem here is one of enabling the student to recognize /a/ as a phoneme distinct from /æ/, /ə/, and /ɔ/. Two parts of this problem have already been discussed; the recognition of /a/ as distinct from /æ/, and as distinct from /ə/. The following types of drills are expected to facilitate the student's recognition of /a/ as a phoneme distinct from /ɔ/.

## 1. Repetition Drill

/a/	/ɔ/
cot	caught
rot	wrought
pod	pawed

## 2. Repetition Drill

cat	cut	cot	caught
rat	rut	rot	wrought

## 3. Recognition Drill

not	not	(same)
cot	caught	(different)
pod	pawed	(different)

4.272. /u/ is found as a phoneme in Meccan, occurring in initial, medial, and final positions. Its realization varies freely from [u] to [o], particularly in final position. The Saudi distinguishes phonemically between his long /o:/ and /u:/ and we would expect that he would therefore have little trouble establishing a parallel contrast between English /ow, uw/. Since he assigns [u] to his phoneme /u/, he should also have no difficulty with English /uw, u, ow/; since, however, he assigns short [o] also to his phoneme /u/, the predictable problem would arise with /u, o/ contrasts in English. Since such contrasts seem rather infrequent in English, this problem is not considered significant; however, to help the Meccan student attain a more native-like pronunciation of such items as opinion, yellow, and whole, it is useful for the teacher to ask him to lower his tongue a little from the /u/ position and reduce the lip rounding in the production of /o/.

4.28. The English vowel /ɔ/.

4.281. /ɔ/ is a low back vowel. In the production of this

sound the lips are slightly rounded and protruded. The tongue is a little lower for this sound than it is for /o/. The sound occurs in words like fought, all, and saw.

4.292. /ɔ/ does not occur in Meccan Arabic either phonetically or phonemically. For this reason Saudi students tend to replace English /ɔ/ by one of the nearby sounds of their own vowel system, typically [a, o]. They will find it difficult, then, to hear and produce /ɔ/ as a phoneme distinct from /a/ and /o/. It will be useful in drilling if the teacher points out to his students that to produce /ɔ/ the tongue is moved a little backward and the lips are rounded slightly more than for /a/. Retraction of the tongue and decreased lip rounding are the main differences that the teacher should point out to his students in making the discrimination between /o/ and /ɔ/. This problem is a part of that discussed in paragraph 4.262 above where drill for it was also suggested.

4.3. English complex nuclei.

4.31. English diphthong /iy/.

4.311. This sound is made with the tongue gliding a little upward from the position where /i/ is produced, to the position for /y/. In English it is found in all positions, initial, medial, and final, as in eat / iyt, seat / siyt, and free / friy.

4.312. As mentioned in 4.12, quality in English complex

nuclei is more important than quantity, while length is distinctive in Meccan. For this reason Saudi students will hear and produce the glide as length. To help them hear and produce it with more native-like control, the teacher must point out the difference in the final tongue position between English /iy/ and Meccan Arabic /i:/. The following drill may help solve this problem:

1. Repetition Drill

/i/	/iy/
fill	feel
hit	heat
is	ease

4.32. The English diphthong /ey/.

4.321. 'American speech tends to retain the monophthong when the syllable is unstressed, as in the first syllable of vacation, as the monophthong with a slight off-glide when it appears in a stressed syllable before a voiceless consonant, as in make and space / me<sup>1</sup>k, spe<sup>1</sup>s /, and as a diphthong in a stressed syllable when final or before a voiced consonant, as in they and gave / dei, geiv /. ' (Bronstein, 1960:151). Saudi students tend to use their monophthong /e:/ in all cases where English /ey/ is used. A similar approach to the one used in the preceding drill will help in enabling Saudi students hear and produce the glide.

4.33. English diphthongs /ay/, /aw/, and /oy/.

4.331. In English each of these complex nuclei consists of two vowels. Each of these diphthongs starts with one vowel which glides into another. In this sense, English diphthongs are not combinations of two vowels as much as they are glides from one sound to another.

4.332. /ay/, /aw/, and /oy/ are found in Meccan as in /Tay/ 'name of a tribe,' /Tawlæ h/ 'table,' and /moyæ h/ 'water.' These complex nuclei are not glides from one sound to another as much as they are vowel-consonant sequences. In fact they occur in separate syllables. In spite of this difference English /ay/, /aw/, and /oy/ are not difficult since they are phonetically similar to (phonemically vowel-consonant) sequences /ay/, /aw/, and /oy/. (Lehn and Slager, 1959:32).

## CHAPTER 5

## VERIFICATION

## 5.1. Material used.

The English speech of three Meccan speakers was recorded and studied to verify the findings derived through contrastive analysis. Test-frame sentences were chosen to reflect some of the predicted problems. A list of forty sentences was given each informant. Some sentences included one predicted problem while others included two or three and others none. Unusual vocabulary items were avoided in the sentences chosen.

## 5.2. Meccan native speakers.

Three Meccan speakers at Kansas State University were requested to read the sentences. These students had spent most of their lives in Mecca and spoke Meccan Arabic. Although they had been exposed to other Arabic dialects, their speech represented the Meccan Arabic of educated people. Biographical information given by these informants indicates:

<u>Informant</u>	<u>Sex</u>	<u>Age</u>	<u>Years of English Study</u>	<u>Years in U. S. A.</u>	<u>Education</u>
No. 1	male	27	8	2	Graduate
No. 2	male	26	8	2	Graduate
No. 3	male	30	10	2	Graduate

## 5.3. Procedures.

Typewritten sentences were given to the Meccan students to

be read at normal speed. Responses were recorded on a tape and were later replayed for the auditors on the same machine. Anticipated articulatory problems were underlined on other copies of the list. One of these copies was given to a native speaker of American English who had graduate linguistics training. He was requested to listen to the responses of each informant and to state whether the utterance of the underlined items resembled or deviated from native articulation. He was also asked to describe the phonological deviation. Each of three other auditors who had nearly the same linguistics training as the first was asked to listen to the responses of one of the Meccan informants. Their judgments of the first informant's responses were compared to those of the first auditor. Agreement among the auditors on the total number of deviations heard was within the range of 89 - 95 per cent. Thus the judgment of the first auditor was established as reasonably representative for native speakers.

#### 5.4. Test sentences.

1. This is his latest letter.
2. This man is helpful.
3. He always comes to class early.
4. The following drills may be helpful.
5. Have you ever seen a greenhouse?
6. There are three bottles on the table.
7. Did you send the letter?
8. This is not the proper answer.

9. The lawyer tried to stop the investigation.
10. He is an honest man.
11. My village is far beyond these hills.
12. The small thin servant is trying to say something.
13. They used to live in the southern section of the city.
14. He has a small scratch on his cheek.
15. He has been living in Virginia since 1940.
16. He proposed a solution for the problem.
17. Can't you write a better letter?
18. He helped the man to solve his problems.
19. The captain was killed in the battle.
20. Are all the knives on the table?
21. They still remember the previous lesson.
22. Do you like chicken?
23. He tried to give a smooth answer.
24. Is March a stormy month here?
25. He always trusts young people.
26. There is an expensive jewel in that box.
27. The judge is an old man.
28. John tried to catch the bus, but he was late.
29. They sent him a credit card.
30. He is my classmate.
31. Did he pass the test?
32. The boy lost his dog yesterday.
33. He caught the ball.
34. The young lady chose the best coat in the store.
35. Is it a good book?



36. He dropped the card in the wrong box.
37. Was your father born in Mecca?
38. The allied forces left the place a long time ago.
39. He tried to attend the meeting on Friday, but he could not.
40. Did you read the article?

## 5.5. Actual replacement.

Chart 5

## Actual Replacement

Predicted Problems	Occurrences of Test Items	Number of Deviations Detected			Percentage of Total Actual Deviations
		Informant 1	Informant 2	Informant 3	
[t] < [t]	3	2	2	1	55
/r/ < [r]	2	-	1	2	50
[ɬ] < [ɬ]	3	-	3	1	44
/p/ < [b]	5	2	5	2	60
/v/ < [f]	5	2	5	2	60
/θ/ < [s]	2	1	-	-	17
/ð/ < [z]	2	1	1	-	33
/ç/ < [ʃ]	2	1	1	1	50
/ʝ/ < [z]	2	1	2	1	67
/e/ < [i]	6	6	6	3	83
/a/ < [o <sup>u</sup> ]	4	4	4	4	100
/ɔ/ < [o <sup>u</sup> ]	4	4	4	1	75

### 5.6. Results of verification.

Most, if not all of the predicted problems actually appeared. However, the frequency with which they appeared differed from one problem to another. It was anticipated that Saudis would have the same degree of articulatory difficulty in producing all English consonants that had no counterparts in Meccan Arabic, i.e. /θ/, /ð/, /p/, and /v/, but it became evident that frequency of deviation from /p/ and /v/ was greater than that from /θ/ and /ð/. The reason for this difference was that informants were aware of the absence of these sounds in their own dialect, so hesitated, but finally articulated /θ/ and /ð/ almost accurately. In the case of /p/ and /v/ the situation was a little different. The only difference between these two sounds and those with which the Meccans replaced them was voicing. Informants demonstrated that maintaining this distinction was beyond their ability, at normal discourse speed. Before and after this experiment it was observed that in free conversation these students in most cases replaced /θ/ and /ð/ with /s/ and /z/.

The real problem, as shown in Chart No. 5, lies in the area of vowels. The frequency with which Meccan speakers replaced English vowels with allophones from their own vowel system was very high compared to that with which they replaced consonants. As mentioned earlier, this is attributable in part to the fact that Arabic simple vowels are fewer than English vowels. Thus a Meccan student will use allophones of his vowel phonemes whenever called upon to produce unfamiliar English vowels.

When one considers the long period devoted by these informants to learning English as well as their lengthy stay among native speakers of English, the necessity for the application of information of the sort produced by this study becomes self evident.

## REFERENCES

- Abdalla, Albert G. 1960. An instrumental study of the intonation of Egyptian Arabic. Ph. D. diss., University of Michigan.
- Aboud, Peter Fouad. 1964. The syntax of Najdi Arabic. Ph. D. diss., University of Texas.
- Ali, Latif. 1966. Phonological problems in teaching English to speakers of Baghdad Arabic. Master's thesis, Kansas State University.
- Allen, Harold. 1959. An introduction to English sound structure. Cairo, Amalgamated Publishing House.
- Allen, Harold. 1958. Readings in applied linguistics. New York, Appleton-Century-Crofts, Inc.
- Arabian American Oil Company (ARAMCO). 1955. Pocket guide to Arabic. Dhahran, ARAMCO Arabic Language Series.
- ARAMCO. 1957a. Basic Arabic. Dhahran, ARAMCO Arabic Language Series.
- ARAMCO. 1957b. Spoken Arabic. Dhahran, ARAMCO Arabic Language Series.
- Blanc, Haim. 1964. Communal dialects in Baghdad. Harvard Middle Eastern Monographs 10. Cambridge, Mass., Harvard University Press.
- Bowman, W. G. 1949. English pronunciation drill for Arabic speaking students. London, Longmans.
- Bronstein, Arthur J. 1960. The pronunciation of American English. New York, Appleton-Century-Crofts, Inc.

- Cantineau, Jean. 1956. The phonemic system of Damascus Arabic. *Word* 12:116-124.
- Chomsky, Noam, and Morris Halle. 1968. The sound pattern of English. New York, Harper & Row, publishers.
- Clereland, Ray L. 1963. A classification for the Arabic dialects of Jordan. *Bulletin of the American School of Oriental Research* 171:56-63.
- Engler, Leo F. 1962. Problems in English/German contrastive analysis. Ph. D. diss., The University of Texas.
- Ferguson, Charles A. 1957. Two problems in Arabic phonology. *Word* 13:460-78.
- Ferguson, Charles A. 1959a. The Arabic koine. *Language* 35:616-30.
- Ferguson, Charles A. 1959b. Diglossia. *Word* 15:325-40.
- Fries, Charles C. 1945. Teaching and learning English as a foreign language. Ann Arbor, University of Michigan Press.
- Garbell, Irene. 1958. Remarks on the historical phonology of an East Mediterranean Arabic dialect. *Word* 14:303-37.
- Ghaly, Muhammad M. 1961. Substantive morphology of colloquial Egyptian Arabic. Ph. D. diss., University of Michigan.
- Gleason, H. A. 1961. An introduction to descriptive linguistics. New York, Holt, Rinehart and Winston, (Revised Edition).
- Goodison, R. A. C. 1962. Arabian peninsula Arabic studies. Arabic dialect studies, 31-48. Harvey Sobbelman, editor. Center for Applied Linguistics of the Modern Language Association and the Middle East Institute, Washington, D. C.

- Greis, Naguib A. 1963. The pedagogical implications of a contrastive analysis of cultivated Cairene Arabic and the English Language. Ph. D. diss., Minnesota.
- Hill, Archibald. 1958. Introduction to linguistic structures: from sound to sentence in English. New York, Harcourt, Brace and World.
- Hockett, Charles F. 1958. A course in modern linguistics. 12th printing. New York, The Macmillan Company.
- Jayakar, A. S. G. 1889. The Omani Dialect of Arabic, *Journal of the Royal Asiatic Society (New Series)* 21:949-687, 811-880.
- Kenyon, John S. 1935. American pronunciation, Revised edition. Ann Arbor, George Wahr.
- Khalafallah, Abdulghani. 1961. Some phonological problems involved in the learning of English by native speakers of Saudi colloquial Egyptian Arabic. Ph. D. diss., University of Texas.
- Kohmoto, Sutesaburo. 1965. Applied English phonology: Teaching of English pronunciation to the native Japanese speaker. Tokyo, Tanaka Press.
- Lado, Robert. 1957. Linguistics across cultures. Ann Arbor, University of Michigan Press.
- Lehn, Walter, and William Slager. 1959. A contrastive study of Egyptian Arabic and American English: The segmental phoneme. *Language Learning* 9:25-33.
- Lehn, Walter. 1963. Emphasis in Cairo Arabic. *Language* 39:29-39.

- Malik, A. P. 1956/57. A comparative study of American English and Iraqi Arabic consonant clusters. *Language Learning* 7:56-87.
- Mitchell, T. F. 1960. Prominence and syllabication in Arabic. *Bulletin of the School of Oriental and African Studies* 23:369-389.
- Nasr, Raja. 1955. The phonological problems involved in the teaching of American to native speakers of Lebanese Arabic. Ph. D. diss., University of Michigan.
- Nasr, Raja. 1959. Velarization in Lebanese Arabic. *Phonetica* 4:89-94.
- Nasr, Raja. 1963. The teaching of English to Arab students. London, Longmans.
- Nida, Eugene A. 1950. Learning of a foreign language. New York, National Council of the Churches of Christ.
- Pike, Kenneth L. 1947. Phonemics: A technique for reducing language to writing. Ann Arbor, University of Michigan Press.
- Roberts, Paul. 1957. English and Arabic sounds. *The Bulletin* (Spring), 29-37.
- Rossi, Ettore. 1959. L'arabo parlato a san'ā: Grammatica, tesi, lessico. Rome, Pubblicazioni dell' Institute per L'Oriente.
- Sobelman, Harvey. 1962. Arabic dialect studies: A selected bibliography. Washington, D. C., Center for Applied Linguistics of the Modern Language Association and the Middle East Institute.



Trager, George L., and Henry Lee Smith. 1951. An outline of English structure. Seventh printing. Washington, American Council of Learned Societies.

Wise, Claude M. 1957. Applied phonetics. Englewood Cliffs, Prentice-Hall, Inc.

PHONOLOGICAL PROBLEMS IN TEACHING ENGLISH TO  
SPEAKERS OF MECCAN ARABIC

by

ISAAK ABDELAZIZ DIQS  
B. A., Riyadh University, 1965

---

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Speech

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1969

Neither a thoroughgoing analysis of Meccan Arabic nor a contrastive analysis of this dialect with English has yet appeared. Large scale English programs in Saudi Arabia still find it necessary to rely on materials based on analyses assuming some other dialect of Arabic as the mother tongue of the learner, and are demonstrating that they are not completely appropriate for speakers of Peninsular dialects. The purpose of this study is to contribute to the reduction of this deficiency by providing a description of the segmental phonology of Meccan and contrasting it with that of the dialect of English known as General American, to predict the pronunciation problems peculiar to Meccan speakers in learning English, and to suggest approaches to the design of drills to aid the Saudi Arabian in acquiring control of the phonology of English.

The phonemes of both languages, their respective allophones and their distributions, are considered in the contrastive analysis. English phonemes for which no counterparts are found in Meccan are /p, v, θ, ɸ, ʃ, e, ɪ, ə, a, o, ɔ/. In the case of phonemes having counterparts, there are interlingual differences in numbers of allophones, distribution of allophones, and articulation. Meccan /t, d/, for example, differ from their American counterparts in point of articulation, the former tending to be dental while the latter tend to be alveolar. Both [e] and [e:] are assigned to /e/ in English, while in Meccan [e] is assigned to /i/ but [e:] to /e:/.

The English speech of three Meccan students at Kansas State University was recorded and audited to verify the findings derived from the contrastive analysis. It was found that most of the predicted problems were realized in the informants' English speech. It was also noted that the vowels seem to present the most common and persistent difficulty to the Saudi in mastering the English segmental phonology.

A corpus containing the test items used in verifying the productions is included, and a short bibliography appended.